


## Abstract

References

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# Implementation of locking schemes in extended dependency graphs

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## Abstract

Concurrency control in deductive databases is an important issue which deserves much attention. In this paper we examine implementation of locking schemes. We adopt a model based on dependency graphs extended with compatibility trees, and describe features related to implementation of locking schemes in this model. Algorithms for read and write locking schemes are provided, and are illustrated by several examples. Although these algorithms are simple, they exemplify what are the unique problems of concurrency control that may be encountered in deductive databases, and how to deal with these problems.

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## References

- [1]. J.D. Ullman. In: (2nd edn. ed.), *Principles of Database and Knowledge Based Systems* Volumes I and II, Computer Science Press, Rockville, MD (1988).
- [2]. R. Elmasri and S.B. Navathe, *Principles of Database Systems*. (2nd edn. ed.), Benjamin/Cummings, Redwood City, CA (1994).
- [3]. S. Yoo, M. Yu and P.C.-Y. Sheu, Concurrency control in deductive databases and object bases. *Data Knowl. Eng.* 9 (1992/1993), pp. 223–240. Abstract | View Record in Scopus | Cited By in Scopus (1)
- [4]. N.S. Barghouti and G.E. Kaiser, Concurrency control in advanced database applications. *ACM Comput. Surv.* 23(1991), pp. 269–317. Full Text via CrossRef
- [5]. D.E. Langworthy, Evaluating correctness criteria for transactions. *SIGPLAN Notes* 23 (1988), pp. 139–141. Full Text via CrossRef
- [6]. M.J. Carey, D.J. DeWitt and G. Graefe, Mechanism for concurrency control and recovery in Prolog: A proposal. In: L. Lerschberg, Editor, *Expert Database Systems*, Benjamin/Cummings, Redwood City, CA (1986), pp. 271–292.
- [7]. M. Morgenstern, The role of constraints in databases, expert systems, and knowledge representation. In: L. Lerschberg, Editor, *Expert Database Systems*, Benjamin/Cummings, Redwood City, CA (1986), pp. 351–368. View Record in Scopus | Cited By in Scopus (1)
- [8]. R. Reiter, Towards a logical reconstruction of relational database theory. In: M.L. Brodie, J. Mylopoulos and J.W. Schmidt, Editors, *On Conceptual Modeling*, Springer Verlag, New York (1984), pp. 191–233.

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